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Application No. : 09/408,873
Filed : 9/29/1999
Inventor(s) : Mauritius Seeger et al.
Docket No. : 99487-US-NP
Confirmation No. : 4555
Examiner : Justin P. Misleh
Art Unit : 2612
Title : MOSAICING IMAGES WITH AN OFFSET LENS
Customer No. : 25453

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE
HONORABLE BOARD OF PATENT APPEALS AND INTERFERENCES**

Application of: Mauritius Seeger et al.

Appl. No.: 09/408,873

Filed: 9/29/1999

Examiner: Justin P. Misleh

Art Unit: 2612

Docket No. 99487-US-NP

Title: **MOSAICING IMAGES WITH AN OFFSET LENS**

TO THE COMMISSIONER FOR PATENTS:

Transmitted herewith is the Appellant's Brief in the above-identified application.

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- ☒ This constitutes a request for any needed extension of time and an authorization to charge all fees therefor to the above deposit account, if not otherwise specifically requested.

Respectfully submitted,

Thomas Zell
Thomas Zell
Attorney for Appellant
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Telephone: 650-812-4282

Date: 3/28/05

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE
HONORABLE BOARD OF PATENT APPEALS AND INTERFERENCES**

Application of: Mauritius Seeger et al.)	Examiner: Justin P. Misleh
)	
Appl. No.: 09/408,873)	Art Unit: 2612
)	
Filed: 9/29/1999)	Docket No. 99487-US-NP

Title: MOSAICING IMAGES WITH AN OFFSET LENS**TO THE COMMISSIONER FOR PATENTS:**

Transmitted herewith is the Appellant's Brief in the above-identified application.

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- ☒ This constitutes a request for any needed extension of time and an authorization to charge all fees therefor to the above deposit account, if not otherwise specifically requested.

Respectfully submitted,

Thomas Zell
Thomas Zell
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Date: 3/28/05

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Signature: Thomas Zell**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE
HONORABLE BOARD OF PATENT APPEALS AND INTERFERENCES**

Application of: Mauritius Seeger et al.

Examiner: Justin P. Misleh

Appl. No.: 09/408,873

Art Unit: 2612

Filed: 9/29/1999

Docket No. 99487-US-NP

Title: MOSAICING IMAGES WITH AN OFFSET LENS

Board of Patent Appeals and Interferences
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Sir:

Appellant respectfully submits this Appeal Brief in the appeal of the present case to the Board of Appeals and Patent Interferences on the Notice dated January 26, 2005.

TABLE OF CONTENTS

	Page
I. REAL PARTY IN INTEREST	1
II. RELATED APPEALS AND INTERFERENCES	2
III. STATUS OF CLAIMS	3
IV. STATUS OF AMENDMENTS	4
V. SUMMARY OF CLAIMED SUBJECT MATTER.....	5
VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL.....	7
VII. ARGUMENT	8
A. First Group Of Claims, Consisting Of Claim 18 (And Its Dependent Claims 20 and 31-35) and Claim 29 (And Its Dependent Claims 30 and 38-42), Is Patentable Over Taylor and Chevette	8
B. Second Group Of Claims, Consisting Of Claim 25 (And Its Dependent Claims 26-27), Is Patentable Over Anderson and Chevette	10
C. Third Group Of Claims, Consisting Of Claim 28, Is Patentable Over Anderson, Chevette, and Kang.....	12
D. Fourth Group Of Claims, Consisting Of Claims 36 and 37, Is Patentable Over Anderson, Chevette, and Ejiri.....	14
E. Conclusion.....	17
CLAIMS APPENDIX.....	A-1
EVIDENCE APPENDIX.....	B-1
RELATED PROCEEDINGS APPENDIX	C-1

Application No. 09/408,873

I. REAL PARTY IN INTEREST

The real party of interest in the present application is the assignee of the present application, Xerox Corporation.

Application No. 09/408,873

II. RELATED APPEALS AND INTERFERENCES

There is no related appeal or interference.

Application No. 09/408,873

III. STATUS OF CLAIMS

Claims 18, 20 and 25-42 are on appeal.

Claims 18, 20 and 25-42 are pending in this application. Of these, claims 18, 25, and 29 are independent claims.

Claims 18, 20 and 25-42 have been finally rejected in an Office Action mailed August 26, 2004 (hereinafter referred to as the "Office Action of August 2004") with additional comments with regard thereto set forth in an Advisory Action mailed December 28, 2004 (hereinafter referred to as the "Advisory Action of December 2004"), on the grounds further discussed herein.

Claims 1-17, 19, and 21-24 are canceled.

Application No. 09/408,873

IV. STATUS OF AMENDMENTS

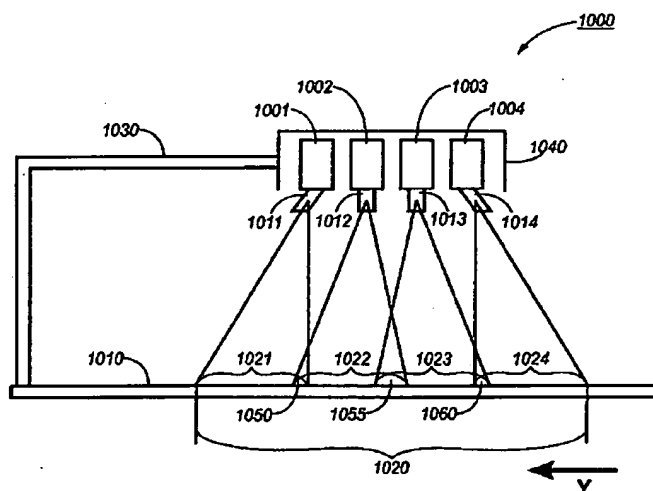
An amendment after final action was filed on October 26, 2004 that amended claim 26. The Advisory Action of December 2004 indicates that the requested amendment after final action has been entered for the purposes of Appeal.

Application No. 09/408,873

V. SUMMARY OF CLAIMED SUBJECT MATTER

Generally, Appellant's invention recited in claims 18, 20, 29-35, and 38-42 concerns two embodiments for mosaicing images with an offset lens.

The first claimed embodiment concerns the first group of claims, consisting of independent claim 18 (together with its dependent claims 20 and 31-35) and independent claim 29 (together with its dependent claims 30 and 38-42). These claims set forth a system and method for mosaicing images simultaneously using multiple cameras, where at least one camera has an offset lens.

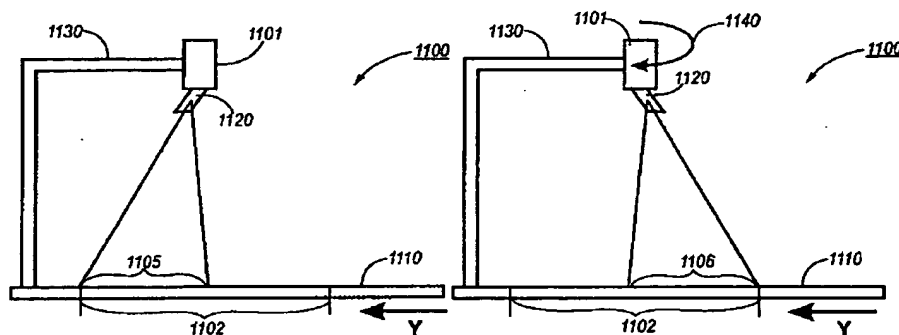


Appellant's Figure 10: Claimed Embodiment 1

More specifically, the system for mosaicing images with an offset lens, and method therefor, recited in independent claims 18 and 29, respectively, is generally illustrated in Appellant's Figure 10 reproduced above. As shown in Figure 10, Appellant's disclosed system and method for mosaicing images with an offset lens recited in claims 18 and 29 combines a plurality of images (1021, 1022, 1023, and 1024) that are simultaneously recorded using a plurality of cameras (1001, 1002, 1003, and 1004) to produce a composite image of an area (1020), where at least one of the cameras has an offset lens (1011 and 1014) that produces an oblique field of view of the portion it records of the area (1020). (See Appellant's specification page 24, line 20 through page 27, line 2.)

Application No. 09/408,873

The second claimed embodiment, consisting of claim 25 (together with its dependent claims 26-28 and 36-37) concerns the second, third, and fourth groups of claims, which is disclosed in Appellant's specification at page 27, lines 3-22.



Appellant's Figures 11 (left) and 12 (right): Claimed Embodiment 2

The method for mosaicing images with an offset lens recited in independent claim 25 (and its dependent claims 26 and 27, which together make up the second group of claims) is generally illustrated in Appellant's Figures 11 and 12 reproduced above. As shown in Figures 11 and 12, Appellant's disclosed method for mosaicing images with an offset lens recited in claims 25 combines images of a first view (1105) and a second view (1106) of an area (1102) that have been recorded with a camera (1101). The first view and the second view of the area are recorded while a lens (1120) is positioned at an offset position within a plane substantially orthogonal to an optical axis of the lens. The first view is recorded while the camera is at a first position, and the second view of the area is recorded after the camera is rotated to a second position (1140).

Another aspect of Appellant's invention recited in dependent claim 28 (which makes up group 3 claims), provides that the second view of the area is recorded while the lens is positioned at the offset position within the plane while the camera is rotated 180 degrees to the second position, as illustrated in Appellant's Figure 12 reproduced above. A further aspect of Appellant's invention recited in claims 36 and 37 (which make up group 4 claims) provides that the camera is rotated from the first position to the second positions about an axis parallel to the optical axis of the lens.

Application No. 09/408,873

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The following grounds of rejection are presented for review concerning the first embodiment of the invention:

Claims 18, 20, 29-35, and 38-42 are rejected under 35 U.S.C. §103(a) as being unpatentable over Taylor et al., U.S. 6,493,469 (hereinafter referred to as "Taylor") in view of Chevrette et al., U.S. Patent 5,774,179 (hereinafter referred to as "Chevrette").

The following grounds of rejection are presented for review concerning the second embodiment of the invention:

Claims 25-27 are rejected under 35 U.S.C. §103(a) as being unpatentable over Anderson US 6,657,667 B1 (hereinafter referred to as "Anderson") in view of Chevrette;

Claim 28 is rejected under 35 U.S.C. §103(a) as being unpatentable over Anderson in view of Chevrette, in further view of Kang et al., US 6,256,058 B1 (hereinafter referred to as "Kang"); and

Claims 36 and 37 are rejected under 35 U.S.C. §103(a) as being unpatentable over Anderson in view of Chevrette, in further view of Ejiri et al., US Patent No. 6,104,840 (hereinafter referred to as "Ejiri").

Application No. 09/408,873

VII. ARGUMENT

Appellant respectfully traverses the rejection of the pending claims and submits they are in condition for allowance for the reasons set forth below. By way of organization, the first group of claims discussed below in section A concerns a first embodiment of the invention, and the second, third, and fourth groups of claims concern a second embodiment of the invention and are discussed below in sections B, C, and D, respectively.

A. First Group Of Claims, Consisting Of Claim 18 (And Its Dependent Claims 20 and 31-35) and Claim 29 (And Its Dependent Claims 30 and 38-42), Is Patentable Over Taylor and Chevrette

In this section, Appellant traverses the rejection of the first group of claims, consisting of claims 18, 20, 29-35, and 38-42, as being obvious under 35 U.S.C. §103(a) over Taylor in view of Chevrette. In doing so, claims 18 and 29 are discussed in this section as the representative claims of the first group. The rejection regarding claims 18 and 29 is detailed on pages 4-5 of the Office Action of August 2004, with additional comments on page 2 of the Advisory Action of December 2004.

For the reason set forth below, Appellant respectfully submits that, as of January 11, 2005, the earlier filed U.S. Patent to Taylor is believed not to be 102(e)/103 prior art to this pending patent application on appeal because of a common obligation of assignment to Xerox Corporation at the date of invention under 35 USC 103(c).

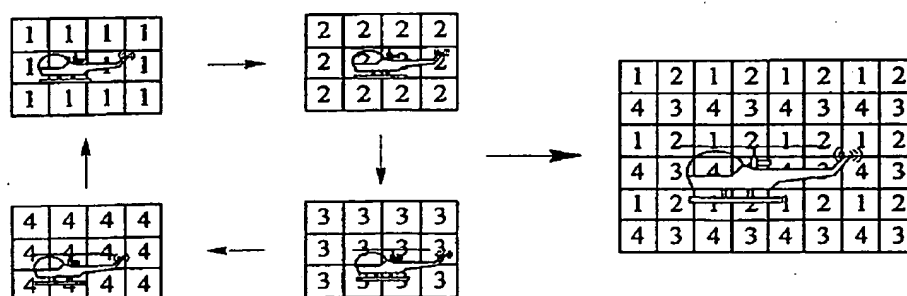
In support thereof, appellant makes reference to page 1819 of the Federal Register, Vol. 70, No. 7, dated January 11, 2005, in which the Patent and Trademark Office (PTO) sets forth the following comment regarding the "CREATE" (Cooperative Research and Technology Enhancement) Act:

Since the CREATE Act also includes the amendment to 35 U.S.C. 103(c) made by section 4807 of the American Inventors Protection Act of 1999 (see Pub. L. 106-113, 113 Stat. 1501, 1501A-591 (1999)), the change of 'subsection (f) or (g)' to "one or more of subsections (e), (f), or (g)" in 35 U.S.C. 103(c) is now also applicable to applications filed prior to December 29, 1999, that were pending on December 10, 2004. [Emphasis supplied]

Application No. 09/408,873

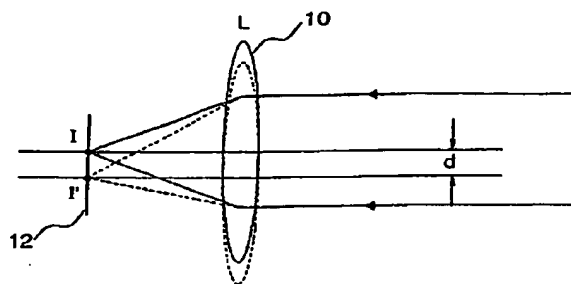
As Taylor and the present application on appeal are commonly owned (on their face, and of record), the cited PTO comment in the Federal Register above, suggests that 103(c)(1) can now be read to apply to any application pending on December 10, 2004, including the present application filed on September 29, 1999. In view of the forgoing and that Taylor published December 10, 2002 when Appellant's Application received a filing date of September 29, 1999, Appellant respectfully submits that Taylor is believed to not be 102(e)/103 prior art to the present application on appeal. Thus, the rejection of independent claims 18 and 29 is considered in view of Chevrette on its own below.

Chevrette discloses a method for fast microscanning that uses a movable focus lens as shown in Figures 1d and 2 (reproduced below) and described in column 34, line 59 through column 7, line 9. As shown in Figures 1d and 2, microscanning involves moving a lens a distance of a half a pixel pitch to record a microscanned image (e.g., the four single number images in Fig. 1d) and "interlacing" the four microscanned images to arrive at the final image (e.g., the large image with numbers 1-4 in it). This has the effect of increasing the spatial resolution (i.e., reciprocal sampling interval on object plane, e.g., DPI) and the pixel resolution (i.e., number of pixels). In the example in Figure 1d of Chevrette, the four single-number images have a lower spatial and a lower pixel resolution then the final image with numbers 1-4.



Chevrette Figure 1d

Application No. 09/408,873

**Chevrette Figure 2**

Referring now to independent claims 18 and 29, Appellant's claimed system and method are distinguished from microscanning as described by Chevrette because Appellant's claims 18 and 29 recite a system and method for combining a plurality of views of an area that have been simultaneously recorded with a plurality of cameras, where at least one of the plurality of cameras has an offset lens to produce an oblique field of view of the portion it records of the area. Thus, unlike Chevrette which discloses a method for microscanning images to produce an interlaced image with greater pixel and spatial resolution than the recorded images, Appellant's system and method produces a composite image with greater pixel resolution than the one or more of the simultaneously recorded images. Accordingly, Appellant respectfully submits that independent claims 18 and 29 are patentably distinguishable over Chevrette taken on its own.

In view of the forgoing, Appellant respectfully submits that the rejection of independent claims 18 and 29 under §103(a) over Taylor in view of Chevrette should be withdrawn as claims 18 and 29 are believed to be in allowable condition. Insofar as claims 20, 30-35, and 38-42 are concerned, these claims depend from one of presumably allowable independent claims 18 or 29 and are therefore also believed to be in allowable condition.

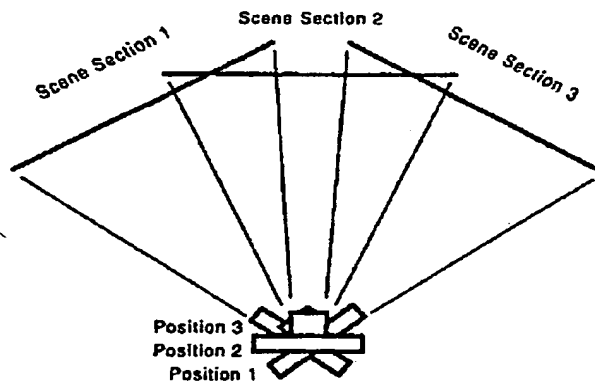
B. Second Group Of Claims, Consisting Of Claim 25 (And Its Dependent Claims 26-27), Is Patentable Over Anderson and Chevrette

In this section, Appellant traverses the rejection of the second group of claims, consisting of independent claim 25, as being obvious under 35 U.S.C. §103(a) over Anderson in view of Chevrette. In doing so, claim 25 is discussed in this section as the representative claim of the second group. The rejection regarding

Application No. 09/408,873

claim 25 is detailed on pages 8-9 of the Office Action of August 2004 with further comments on page 2 of the Advisory Action of December 2004.

Anderson discloses as illustrated in Figure 6A, reproduced below, and described in column 6, lines 8-51, a method for capturing overlapping images by rotating a camera about an axis perpendicular to the axis of the lens of the camera. The Office Action of August 2004 acknowledges on page 8, lines 14-16, that "Anderson does not disclose a camera wherein the lens is positioned at an offset position within a plane substantially orthogonal to an optical axis of the lens", as claimed by Appellant in independent claim 25.



Anderson Figure 6A

Chevrette discloses a method for fast microscanning (as discussed above with reference to independent claims 18 and 29), where a lens is moved a distance to record each microscanned image. Instead, Appellant's invention recited in independent claim 25 recites a scanning method in which a camera is rotated to a first position and a second position when a first view and a second view of an area are recorded. Further claim 25 recites that the first and second views of the area are recorded while a lens is positioned at an offset position within a plane substantially orthogonal to an optical axis of the lens.

Appellant respectfully submits that the combination of Anderson and Chevrette fails to disclose or suggest Appellant's invention recited in claim 25 as their combination instead sets forth a method for capturing overlapping images using a camera that records microscanned images, where after rotating the camera

Application No. 09/408,873

to a between positions the lens fails to remain in an offset position within a plane substantially orthogonal to an optical axis of the lens. Such an arrangement thus fails to disclose or suggest Appellant's claimed method recited in independent claim 25 in which a first view of an area is recorded while a lens is positioned at an offset within a plane substantially orthogonal to an optical axis of the lens while the camera is at a first position, and a second view of the area is recorded while the lens is positioned at the offset position within the plane after the camera is rotated to a second position.

More specifically, claim 25 provides that a second view of the area is recorded after the camera is rotated to the second position, and while the lens is positioned at the offset position within the plane at which the lens was positioned when the first view was recorded. That is, claim 25 requires that the camera be rotated to two different positions while the lens records two views of an area, and while the lens is positioned at an offset position within a plane substantially orthogonal to an optical axis of the lens. In contrast, Chevrette fails to disclose or suggest rotating a camera, and any rotation of the camera as taught by Anderson fails to retain the lens in an offset position within a plane substantially orthogonal to the optical axis of the lens.

Accordingly, Appellant respectfully submits that independent claim 25 is patentably distinguishable over Anderson taken singly or in combination with Chevrette. Insofar as claims 26-27 are concerned, these claims depend from now presumably allowable independent claim 25 and are also believed to be in allowable condition.

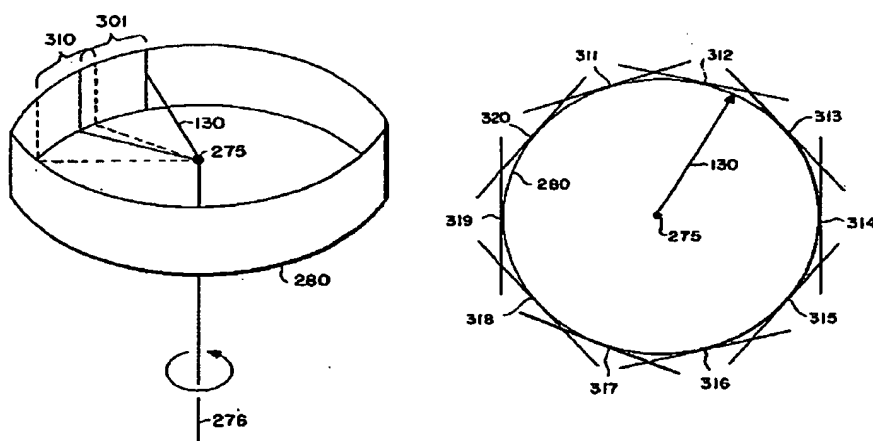
C. Third Group Of Claims, Consisting Of Claim 28, Is Patentable Over Anderson, Chevrette, and Kang

In this section, Appellant traverses the rejection of the third group of claims, consisting of claim 28, which depends from independent claim 25, as being obvious under 35 U.S.C. §103(a) over Anderson in view of Chevrette in further view of Kang. The rejection regarding claim 28 is detailed on pages 10-11 of the Office Action of August 2004.

Claim 28 sets forth, in addition to the limitations of claim 25 discussed above, that in recording the second view of the area, the lens is positioned at the offset

Application No. 09/408,873

position within the plane while the camera is rotated 180 degrees to the second position. The Office Action of August 2004 on page 10, lines 11-14, acknowledges that "Anderson in view of Chevrette et al. do not show wherein step (b) further comprises the step of recording the second view of the area while the lens is position with the plane while the camera is rotated 180 degrees to the second position". To support the rejection of claim 25, the Office Action of August 2004 alleges that Anderson and Chevrette taken together with Kang discloses Appellant's disclosed method for mosaicing images recited in claim 28.



Kang Figures 2 (left) and 3 (right)

As shown in Figures 2 and 3 of Kang (reproduced above), Kang discloses a method for composing a panoramic view of cylindrical images (e.g., 301 and 310) using a set of planar images (e.g., 311 and 320) that overlap each other. A camera rotates about an axis (276), which is substantially perpendicular to the focal axis of the lens of the camera, to record the set of planar images. (See Kang column 3, lines 31-45.) In contrast, Appellant's claimed method for recording images recited in independent claim 28 in which a first view of an area is recorded while a lens is positioned at an offset within a plane substantially orthogonal to an optical axis of the lens while the camera is at a first position, and a second view of the area is recorded while the lens is positioned at the offset position within the plane after the camera is rotated 180 degrees to a second position.

Application No. 09/408,873

More specifically, Kang taken singly or in combination with Anderson and/or Chevrette discloses or suggests the recording of images where a camera is rotated 180 degrees after recording a first image to record a second image, while the lens is positioned at each position at an offset position within a plane substantially orthogonal to an optical axis of the lens. The rotation of a camera disclosed by Anderson in Figure 6A (reproduced above) and Kang in Figures 2 and 3 (reproduced above) concerns the rotation of the camera about an axis that is substantially orthogonal to the focal axis of the lens of the camera, which does not permit the lens to be positioned at an offset position within a plane substantially orthogonal to an optical axis of the lens to record a first image and a second image while the camera is in two positions, one position 180 degrees rotated from the other, as claimed by Appellant in claim 28.

Accordingly, for these reasons and for the reasons set forth above regarding independent claim 25, Anderson taken singly or in combination with Chevrette and Kang fails to disclose the limitations set forth in claim 28, which incorporates all limitations of claim 25.

D. Fourth Group Of Claims, Consisting Of Claims 36 and 37, Is Patentable Over Anderson, Chevrette, and Ejiri

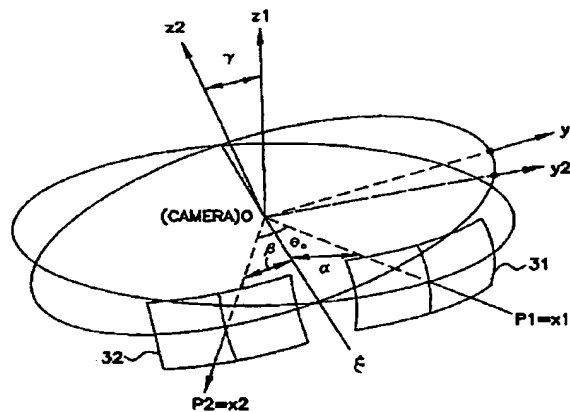
In this section, Appellant traverses the rejection of the fourth group of claims, consisting of claims 36 and 37, which depend from independent claim 25, as being obvious under 35 U.S.C. §103(a) over Anderson in view of Chevrette in further view of Ejiri. The rejection regarding claims 36 and 37 is detailed on pages 11-12 of the Office Action of August 2004.

Claims 36 and 37 sets forth, in addition to the limitations of claim 25 discussed above, that the camera is rotated from the first position to the second position about an axis parallel to the optical axis of the lens. The Office Action of August 2004 on page 10, lines 11-14, acknowledges that "Anderson discloses that the camera is rotated to all positions about an axis perpendicular to the optical axis of the camera lens and does not disclose that the camera is rotated to all positions about an axis parallel to the optical axis of the camera lens". To support the rejection of claims 36 and 37, the Office Action of August 2004 alleges that

Application No. 09/408,873

Anderson and Chevette taken together with Ejiri discloses Appellant's method for mosaicing images recited in claims 36 and 37.

Ejiri discloses a method for generating a composite image from a plurality of overlapping adjacent images taken at a single location along a plurality of axes by determining an angular relation between overlapping images based on a shared common pattern (see Ejiri column 2, lines 1-11). Figure 6 of Ejiri reproduced below "illustrates a three-dimensional view of the two images [31 and 32] for determining an angular relation between the two images" (see Ejiri column 3, lines 13-15).



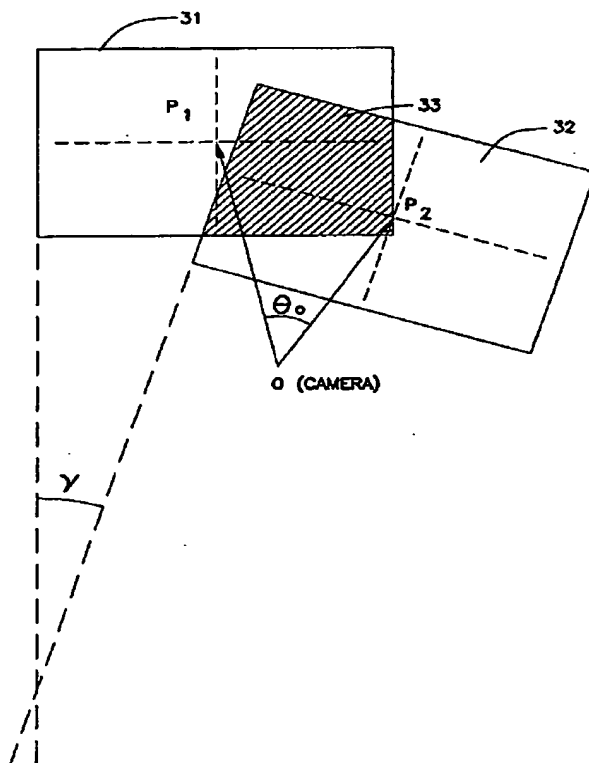
Ejiri Figure 6

The Office Action of August 2004 alleges that because in Figure 6 "the angle γ corresponds to the rotation of the camera about an axis (ξ) that is parallel to the optical axis of the camera (O)" (see page 11, line 20 through page 12, line 1) Ejiri therefore discloses the rotation of a camera about an axis parallel to the optical axis of a camera lens as claimed by Appellant in claims 36 and 37. Even if Ejiri could be modified as is being suggested by the Office Action of August 2004, Ejiri must still suggest desirability of the modification (see In re Gordon, 221 USPQ 1125 (CAFC 1984), which states that the mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification).

Appellant respectfully submits that no desirability of the modification exists, as Figure 5 of Ejiri, reproduced below, clearly defines what is meant in Ejiri by a plurality of images (31 and 32, that share overlapping portion 33) taken from a

Application No. 09/408,873

common location (O) along a plurality of axes (where angle θ represents an angle formed between the centers of P_1 and P_2 of the images 31 and 32, respectively), and consequently fails to disclose or suggest rotating a camera about an axis parallel to the optical axis of a camera lens from a first position to a second position as claimed by Appellant in claims 36 and 37. (See Ejiri col. 5, line 59 through col. 6, line 6, and Ejiri Figures 5 reproduced below and Figure 6 reproduced above.) More specifically, Ejiri in Figure 5 (reproduced below) or Figure 6 (reproduced above) taken singly or together with Anderson and Chevrette, fail to disclose or suggest the rotation from the position P_1 and to the position P_2 to capture the images 31 and 32 respectively, when the camera is rotated about an axis parallel to the optical axis of the lens (i.e., axis ξ in Ejiri Figure 6 reproduced above).



Ejiri Figure 5

Accordingly, for these reasons and for the reasons set forth above regarding independent claim 25, Anderson taken singly or in combination with Chevrette and

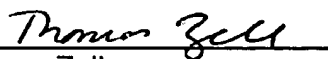
Application No. 09/408,873

Ejiri fails to disclose the limitations set forth in claims 36 and 37, which incorporates all limitations of claim 25 (and for claim 37 intervening claims 26 and 27).

E. Conclusion

Based on the arguments presented above, claims 18, 20, 29-35, and 38-42 are believed to be in condition for allowance. Appellant therefore respectfully requests that the Board of Patent Appeals and Interferences reconsider this application, reverse in whole the rejection of claims 18, 20, 29-35, and 38-42, and pass this application for allowance.

Respectfully submitted,



Thomas Zell
Attorney for Appellant
Registration No. 37,481
Telephone: 650-812-4282

Date: 3/28/05

Application No. 09/408,873

CLAIMS APPENDIX**CLAIMS INVOLVED IN THE APPEAL:**

18. An image acquisition system, comprising:

a plurality of cameras simultaneously records a plurality of views of an area having one or more objects to produce a plurality of camera images of different portions of the area, each camera having a lens positioned within a plane substantially orthogonal to an optical axis of the lens, wherein the view of each camera is positioned to record a portion of the area with at least one of the cameras having an offset lens to produce an oblique field of view of the portion it records of the area, and wherein the offset lens of the at least one camera may be shifted to one of a plurality of offsets; and

an image processing system coupled to the plurality of cameras and operable to combine the plurality of camera images simultaneously recorded to produce a composite image having a higher resolution than the resolution of one or more of the simultaneously recorded views of the area.

20. The image acquisition system of claim 18, wherein the image processing system is operable to produce the composite image by mosaicing the camera images.

25. A method of scanning with a camera, comprising the steps of:

(a) recording a first view of an area having one or more objects while a lens is positioned at an offset position within a plane substantially orthogonal to an optical axis of the lens while the camera is at a first position;

(b) recording a second view of the area while the lens is positioned at the offset position within the plane after the camera is rotated to a second position; and

(c) combining all recorded views to produce a composite image having a higher resolution than the resolution of one or more of the recorded views.

26. The method of claim 25, further comprising between step (b) and step (c), the step of:

(d) recording a next view of the area while the lens is positioned at the offset position within the plane while the camera is rotated to a third position.

A-1

Application No. 09/408,873

27. The method of claim 26, further comprising the step of:

(e) repeating step (d) until all views of the area have been recorded.

28. The method of claim 25, wherein step (b) further comprises the step of recording the second view of the area while the lens is positioned at the offset position within the plane while the camera is rotated 180 degrees to the second position.

29. A method of scanning with a camera system having a plurality of cameras, comprising the steps of:

(a) simultaneously recording a plurality of views of an area having one or more objects with a plurality of cameras to produce a plurality of camera images of different portions of the area, each camera having a lens positioned within a plane substantially orthogonal to an optical axis of the lens, wherein the view of each camera is positioned to record a portion of the area with at least one of the cameras having an offset lens to produce an oblique field of view of the portion it records of the area, and wherein the offset lens of the at least one camera may be shifted to one of a plurality of offsets; and

(b) combining the plurality of simultaneously recorded camera images to produce a composite image having a higher resolution than the resolution of one or more of the simultaneously recorded views of the area.

30. The method of claim 29, wherein step (b) includes the step of mosaicing all recorded views of the area.

31. The image acquisition system of claim 18, wherein the image processing system is operable to combine the plurality of camera images to produce a composite image of the plurality views by patching the plurality of camera images together at regions of overlap.

32. The image acquisition system of claim 18, wherein the plurality of cameras are arranged together in a housing.

33. The image acquisition system of claim 32, wherein the housing is positioned over a desk.

Application No. 09/408,873

34. The image acquisition system of claim 18, wherein at least a second of the plurality of cameras has a fixed offset lens to produce an oblique field of view.

35. The image acquisition system of claim 34, wherein at least one camera with no lens offset is interposed between the cameras recording oblique fields of view.

36. The method of claim 25, wherein the camera is rotated from the first rotated position to the second rotated position about an axis parallel to the optical axis of the lens.

37. The method of claim 27, wherein the camera is rotated to each position about an axis parallel to the optical axis of the lens.

38. The method of claim 29, wherein said combining combines the plurality of recorded views by patching the plurality of camera images together at regions of overlap to produce a composite image having a higher resolution than the resolution of one or more of the recorded views.

39. The method of claim 29, further comprising arranging the plurality of cameras in a housing.

40. The method of claim 39, wherein the housing is positioned over a desk.

41. The method of claim 29, wherein at least a second of the plurality of cameras has a fixed offset lens to produce an oblique field of view.

42. The method of claim 41, wherein at least one camera with no lens offset is interposed between the cameras recording oblique fields of view.

Application No. 09/408,873

EVIDENCE APPENDIX

NONE

B-1

Application No. 09/408,873

RELATED PROCEEDINGS APPENDIX

NONE

C-1